Navy Drug Screening Laboratory
San Diego, California

Virtual Tour

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Commanding Officer

Virtual Tour Instructions

- To view the tour use the Slide Show button under the View tab. Successive slides can be viewed by clicking the return key.
- Certain Department slides have “virtual tour” links – to access them use the mouse to click the picture(s) on each departments slide. To return to the main presentation click the “Return to the Main Presentation” hyperlink.
- The presentation also includes several links to other web sites. To return to the virtual tour click the “back” button on the web browser.
- The last slide of the presentation contains a “End Presentation” link – click this to finish.

Mission, Vision and Guiding Principles

OUR MISSION:

To provide scientifically valid and legally defensible test results for selected drugs of abuse or drug metabolites in urine specimens to our customers in an accurate and efficient manner.

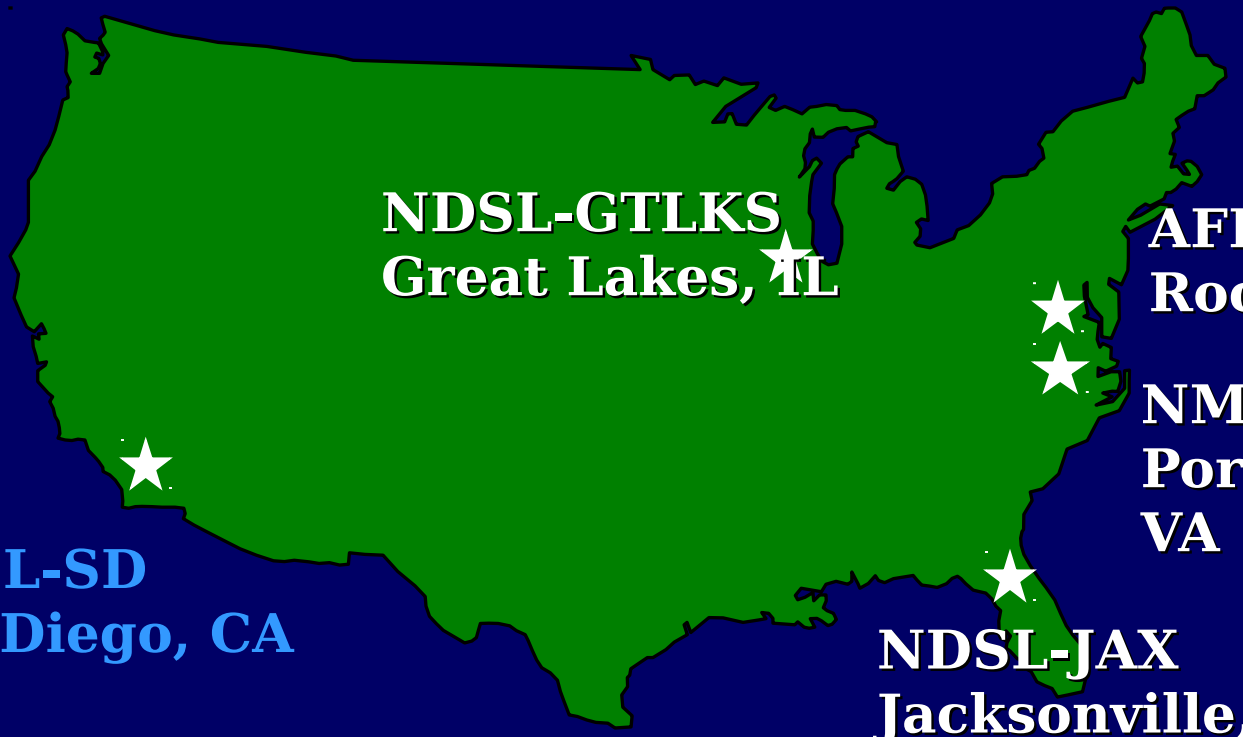
OUR VISION:

- Dedication to quality customer service.
- Timely and accurate drug testing results.
- Expertise in forensic drug testing.
- Continuing efforts to be at the forefront of the drug testing industry.
- Ability to meet the ever-changing demands of drug deterrence through research and development.

OUR GUIDING PRINCIPLES:

- We will perform with the highest integrity; leading by example with honor, courage and commitment.
- We will strive for increase quality.
- We will advocate teamwork.
- We will encourage open communication up, down and across the chain of command.
- We will advocate stewardship.
- We will demand safety on the job and promote employee health.

Navy Drug Screening Laboratory System



Operating under a common Standard Operating Procedures Manual.

Operational Authority

- DODINST 1010.16, OPNAVINST 5350.4C, and Urinalysis Program Coordinator (UPC) Handbook (OCT 2001).
  - Access the Drug and Alcohol Abuse Prevention Program home page at http://www.npc.navy.mil/CommandSupport/NADAP. Click on Publications. The NDSP program is available via the iFTDTL web portal.
- MCO P1700.24B MARINE CORPS PERSONAL SERVICES MANUAL
  - Access the Marine Corps home page (www.usmc.mil) click on Orders/Directives, View by SSIC, then SSIC 01000, Military Personnel. MCO can be found near the bottom of the list.
- Navy Drug Testing Program SOP
  - To provide chemical analysis of urine specimens for the presence of controlled substances and illegal drugs under forensic conditions.

Testing Performed by Navy Drug Screening Laboratories

Routine Panel:

- Marijuana (THC metabolite)
- Cocaine (Benzoylecognine metabolite)
- Amphetamine & Methamphetamine
- Designer Amphetamines / Ecstasy (MDMA, MDA, MDEA)
- Heroin (6-Acetylmorphine metabolite)

Pulse Test Panel:

- Opiates (Codeine, Morphine)
- Oxycodone/Oxymorphone
- Phencyclidine (PCP)
- Other (special requests)

Drug Testing Myths and Misconceptions

- Labs use hair, saliva and blood: FALSE – The laboratories are only authorized to conduct drug testing using urine.

- The lab only conducts testing steroids and alcohol: FALSE – we do not test for steroids or alcohol. Authorization for steroid testing must come from PERS and will be conducted by UCLA:
  - Mr. Bill Flannery (901) 874-4400 (NAVY)
  - Contact Mr. Cruz Martinez (703) 784-9526 (MARINES)

- The laboratory selectively tests samples received from submitting commands: FALSE -- all samples are tested unless one of the following conditions exist:
  - Analysis would damage instrumentation
    - Other than urine (substituted)
    - Specimen is suspected of adulteration
  - Quantity not sufficient (QNS) for testing.

Drug Testing Myths and Misconceptions

- Passive inhalation of marijuana is a legitimate defense: FALSE – This claim is not supported by scientific evidence; impossible except in very extreme circumstances.

- Over-the-counter (OTC) medications will cause false positive for Methamphetamine: FALSE – this claim is not supported by scientific evidence. The laboratory employs testing procedures that differentiate between these types of drugs.

- Poppy seed ingestion may cause false positive for morphine: TRUE -- It is possible but extremely unlikely with new cutoffs.

- Vick's Inhaler causes false positive for methamphetamine: FALSE -- Not supported by scientific evidence.

- Lidocaine, novocaine, xylocaine cause false positive for cocaine: FALSE -- Not supported by scientific evidence, totally different molecules.

When and How Many to Test

- **Random**
  - Minimum requirement of 10-20 percent of all personnel assigned every month.
  - May test up to 40 percent at CO's discretion.
  - Weekend testing

- **Unit Sweeps**
  - Required to conduct one annual unit sweep
  - May conduct as many as five per year at CO's discretion.

Chain of Custody

- Proper chain of custody must be maintained at all times, beginning with specimen collection (DD form 2624).
  - WHO has custody of the urine sample? (Name Stamp and Signature)
  - WHAT purpose do they have custody of the sample? (Purpose).
  - WHEN do they have custody? (Date)

Examples of how to properly fill out DD form 2624 can be found on the NDSL website home page under the Information and Resources tab, DD2624.

Initial Testing Department: Accessioning Section

- Receives boxes of urine samples: Drop-off, U.S. Mail, UPS and FedEx
- Inspect box, bottles and chain of custody form - notes any problems or discrepancies
- Each bottle is assigned a random laboratory ID number
- Pours an aliquot of urine from bottle into test tube
- Only one bottle open at a time

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Cutoff Levels Definition

- **Cutoff Level:** The concentration of drug (ng/mL) in urine that serves as an administrative breakpoint for calling a testing result positive or negative. Cutoff levels consider the following factors:
  - Analytical abilities of the instruments
  - Pharmacological factors
  - Non-abuse exposures

What do the drug testing results mean?

- **Negative Test:**
  - The sample was either completely drug-free or the drug was present but below the DoD cutoff level by screening analysis.

- **Positive Test:**
  - The level of the drug found in the sample is greater than or equal to the DoD cutoff level by screening analysis (x2) and by confirmation analysis.
  - Drug values below the cutoff are not reported. The command is told only that the sample was negative.

Initial Testing Department: Screening Section

- Quick/inexpensive immunoassay (IA) for separating samples with drug present at or above the cutoff concentration from those below the cutoff.
- IA gives only a “presumptive” identification of drug.
- “Presumptive positives” are rescreened, and if still positive are sent for confirmation.

Click on Picture for Virtual Tour

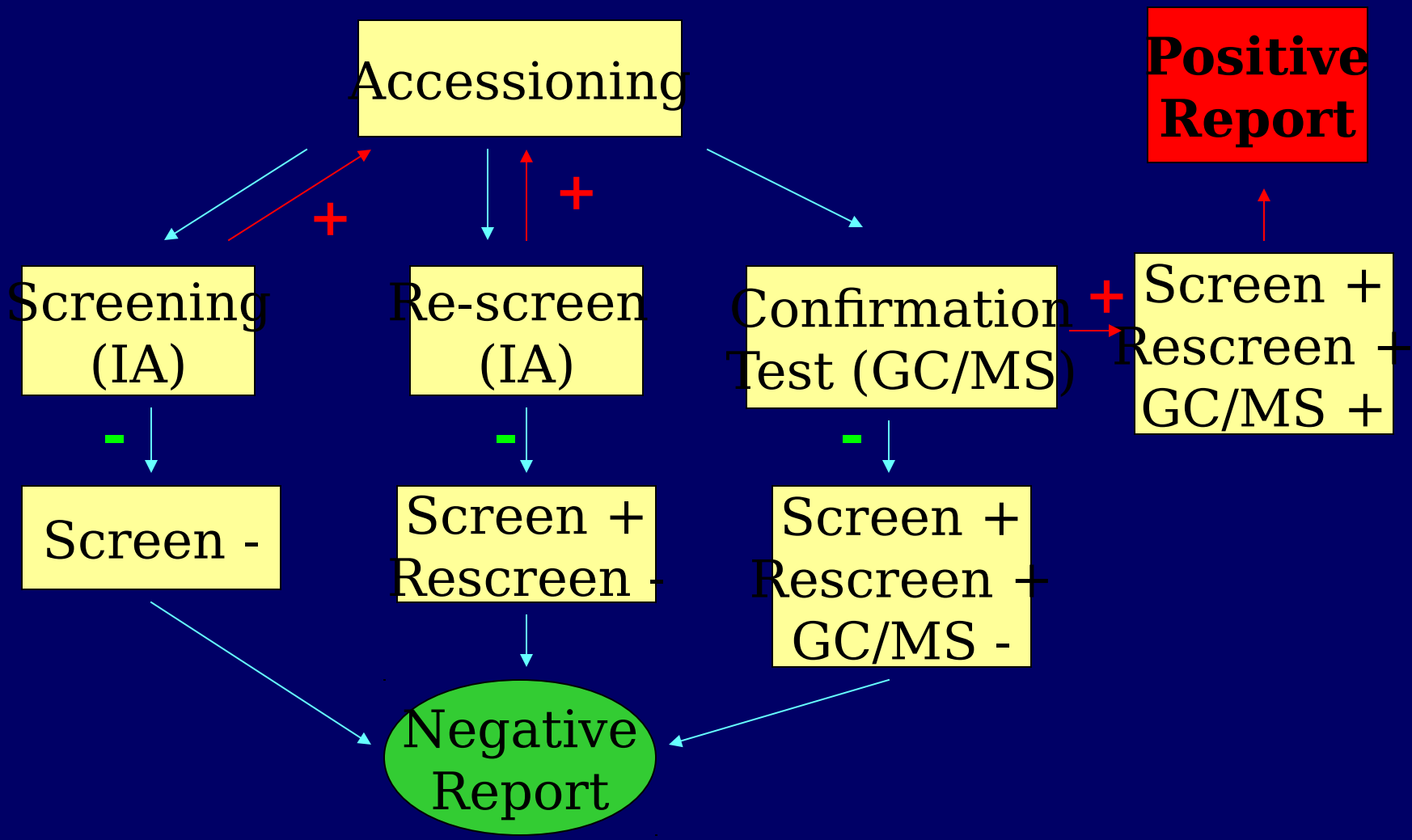
Confirmation Department

- Definition: A second test by an alternate chemical method to positively identify a drug or metabolite
- Gas chromatography - Mass Spectrometry
- 100% Accurate
  - Ret. Time
  - Mol. Weight
  - Ion Ratios

Click on Pictures for Virtual Tour

Specimen Handling

"Follow a specimen as it progresses through each stage



Quality Control Department

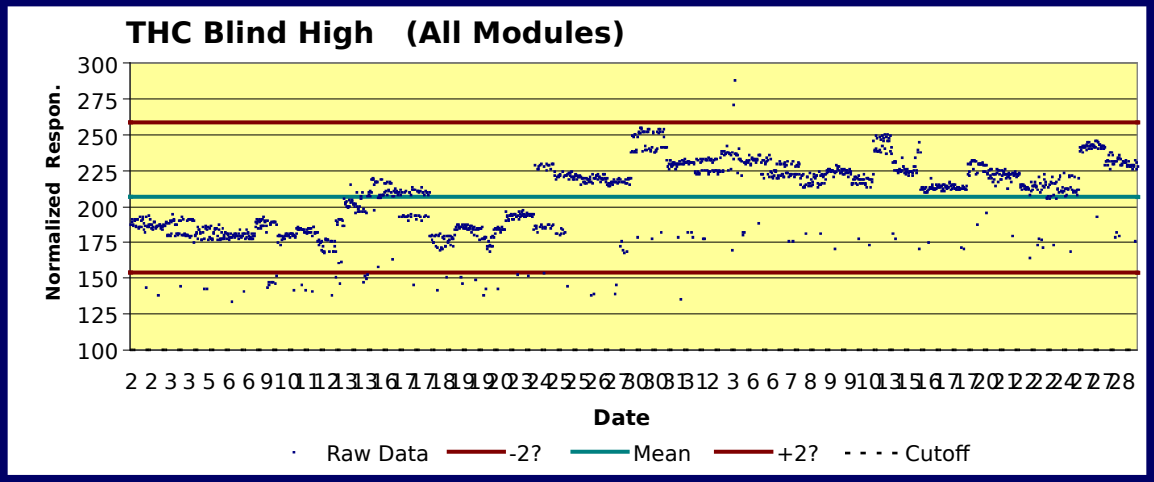
- Monitors Internal QC Program:
  - Preparation of Open Controls:
    - Screening & Confirmation
    - Known identity and level
  - Preparation of Blind Controls
    - Screening & Confirmation
    - Identity and level unknown
- Performs Initial Data Review:
  - Provides initial LCO review for immunoassay data and QC review for GC/MS data.
- Calibrates Pipetting Equipment
- Conducts Quality Assurance Audits
- Statistical Analysis
  - Trend analysis for all controls
  - Monthly QA/QC report

Click on Picture for Virtual Tour

Quality Assurance (QA)

- QA conducts monthly Quality Assurance audits for all laboratory sections. Data generated by these audits are used for continuous process improvement.

- This section also provides the laboratory with statistical and trend analysis data for all standards and controls.



External Quality Assurance Program

- **Inspections**
  - 3 NMCPHC/year
  - 3 Civilian/year
    - 2 civilian forensic scientist
    - NavPers legal advisor
    - Armed Forces Institute of Pathology Rep
  - 1 DOD (every other year)

- **External QC (AFIP)**
  - Open Program
    - Screening and confirmation
  - Blind Program
    - Blind samples submitted via submitting commands

Failsafe Procedures

- All three tests (initial screen, rescreen, and confirmation) must be positive before a positive result is reported
- Extensive review process prior to reporting
  - Technician
  - Quality Control
  - Initial Laboratory Certifying Official
  - Final Laboratory Certifying Official
  - Administrative Forms Review
  - Certifying Official
- Compartmentalization of laboratory personnel

Support Services Department

Click Picture for Virtual Tour

- Urinalysis results reporting to Fleet by web-based system or DMS.
- Documentation Packets for Legal/Admin Processes.
- Expert Witnesses for Legal/Admin Proceedings.
- Technical consultation

Technical Review Division

Legal Support:

- Contact the experts at your Navy Drug Screening Laboratory to answer any questions concerning positive results
- They represent science - no victim to avenge, no guilty or innocent person to ruin or save - they will bear witness within the limits of science

Technical / MRO Support:

- All reported positive results for amphetamines, opiates, and oxycodone/oxymorphone require review by NDSL after checking the medical record for prescription medications before it is ruled a drug incident.

Data Review:

- Military Biochemists/Toxicologists and civilian chemists review all data sets for accuracy, forensic integrity and legal defensibility.

Resources and Information Systems

Resources D

The Resources Department is responsibilities for:

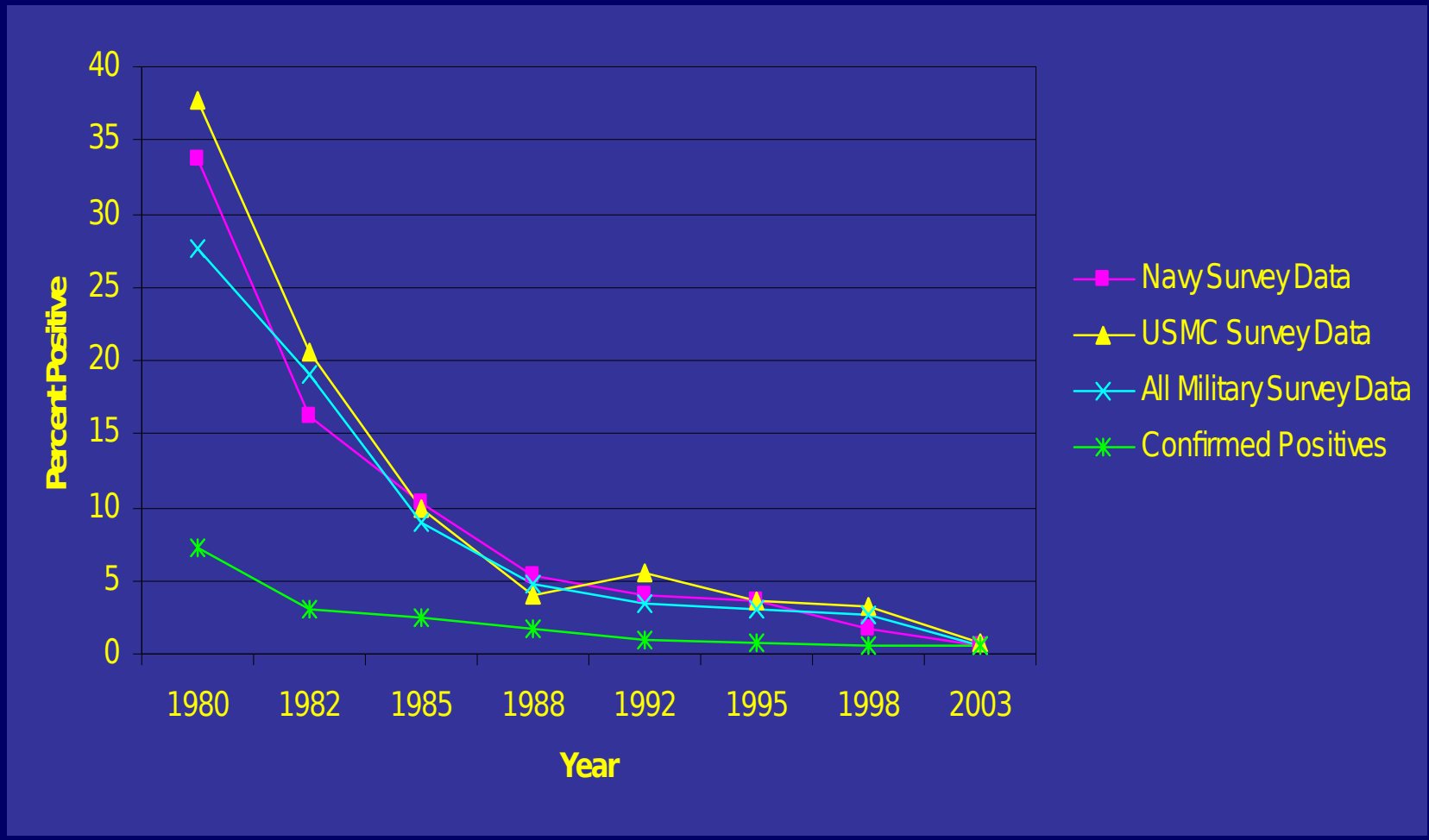
- Financial / Budget
- Time and Attendance
- Payroll
- Facilities Maintenance
- Supply
- Custodial
- Medical Waste Disposal
- Travel

Information Management Department

The Information Management Department provides:

- Laboratory Information Systems (LIMS) maintenance
- Work station and equipment technical support
- Research and Development
- Database back-up/archiving
- Monthly report generation
- Information Assurance
- INFOSEC / COMPUSEC
- Web result reporting

Navy Drug Testing Program: Success as a Drug Use Deterrent



This graph illustrates data collected from two separate sources; the first is self-reported survey data and the second is laboratory confirmed positive data. The data shows a decrease in both self reported and confirmed drug use since the inception of the Navy Drug Testing Program.

This Concludes the Virtual Tour of the Navy Drug Screening Laboratory – San Diego, California. Should you have further questions regarding the Navy Drug Testing Program, legal, technical or medical review officer support – the contact information for the laboratory is listed below:

	Commercial	DSN
Commanding Officer:	(619) 532-7141	522-7141
Executive Officer:	(619) 532-7141	522-7141
Director of Operations / Technical Director:	(619) 532-5724	522-5724
Director , Business Support:	(619) 532-5165	522-5165
Command Secretary:	(619) 532-7141	522-7141

Questions regarding, collection, steroid testing, or Urinalysis Program Coordinator information contact NADAP

NDSP information or to sign up for iFTDTL web based drug test reporting contact the iFTDTL support team

END PRESENTATION

Virtual Tour - Accessioning

Return to Main Presentation

Accessioning receives specimens from a variety of sources including U.S. Mail, Federal Express, and Courier. Regardless of the source all samples are processed first by Accessioning.

Each specimen box is checked to ensure that the packaging and specimen bottles are intact and show no evidence of tampering.

After initial processing, samples are "batched" into groups of 100. Each batch then undergoes a series of verification steps in which information on the Chain of Custody is verified against the information on the bottle.

Upon completion of the verification process each sample is poured for immunoassay testing. Each sample is actually poured and tested twice for immunoassay analysis.

Samples screening positive by immunoassay are considered "presumptive" positives, and are poured a third time for analysis by Gas Chromatography / Mass Spectrometry (GC/MS).

The NDSL San Diego Discrepancy Code List can be found on the Home page under the Information and Resources tab.

Virtual Tour - Screening

NDSL San Diego uses state of the art automated Immunoassay analyzers to conduct the first two stages of testing. Shown above is the Hitachi DDP configuration that serves as the labs main production instrument.

The lab also uses a stand alone Hitachi P2 module – this instrument functions as a back up to the DDP, the primary instrument for re-immunoassay analysis as well as the research and development instrument.

Both instruments use commercially available reagent kits to screen for drugs of abuse. The instruments are used to screen the small number of presumptive positive from the large number of negative specimens.

The Hitachi systems combine modern technology and automation with high throughput capabilities that allow the laboratory to meet the DoD and customer turnaround time requirements.

Virtual Tour - Confirmation

Return to Main Presentation

The Confirmation Department is the last stop for all presumptive positives samples. This section is responsible for chemically and physically extracting drugs of abuse or their metabolites from urine prior to analysis by Gas Chromatography / Mass Spectrometry (GC/MS). Additionally, the department is implementing Fast GC/MS methods to decrease the current run time for marijuana, oxycodone/oxymorphone, and cocaine metabolites.

The laboratory utilizes 13 state of the art Gas Chromatograph / Mass Spectrometers to identify and quantify drugs of abuse or their metabolites with 100% accuracy.

Virtual Tour - Support Services

Return to Main Presentation

One of the main functions of the Support Services Department is to ensure that all data received from submitting commands is entered into the laboratory information system with 100% accuracy. The department achieves this goal through the use of full page scanning technology. This technology allows a full administrative batch of 100 samples to be entered into the data base in less than 15 minutes. The combination of the automated technology and properly bar coded forms has led to a significant decrease in the laboratory's turn around time.

Other functions of the department include:

- **Administrative review of data sets prior to military message preparation.**
- **Preparation of litigation packages for use by the laboratory expert witnesses and the Navy legal community**
- **Military real-time web-based urinalysis results reporting.**
- **Processing Command re-test requests.**

The Support Services department also has the task of maintaining the laboratory data archives. All data sets produced by the testing process are stored in the archives for three years prior to final disposal.

Virtual Tour – Quality Control

Return to Main Presentation

Standards and Controls

• Quality Control (QC) is the hub of the laboratory and one of the most critical functions is the preparation of laboratory standards and controls. Annually the department prepares, certifies and tracks the performance of thousands of standards and controls. Each control solutions used (immunoassay and GC/MS) undergoes a rigorous certification process prior to its use in the testing process.

• The department also tracks the performance of each control solution over the course of its life time to ensure that each standard is performing within the acceptable ranges.

• An important part of the QC function is the maintenance of the laboratory's internal blind and open control program. QC's main function is to ensure that the laboratory has an adequate daily supply of these controls to meet production requirements as well as to ensure that each control is testing appropriately.

• The department must also ensure that all pipetting equipment used throughout the laboratory is properly calibrated and functioning within acceptable ranges. A bi-annual check and re-calibration is conducted by the department to maintain these analytical instruments.

• An equally important function of QC is data review. The department is the first stop for all data